

Public Health England issues LED street lighting warning

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Public Health England has warned that high levels of blue light in LED street lighting can be uncomfortable and are 'known to cause damage to the retina'.

The executive agency of the Department of Health also suggested that 'daylight-running lights on cars' can mean that older drivers 'will be dazzled by oncoming vehicles with the risk that they may not see hazards until too late' - a problem exacerbated by fog.



LED street lights have been used to replace older forms of street lighting across the UK as they are much cheaper to run, easier to control and can have less light dispersal.

However John O'Hagan of Public Health England warned that social and health factors should be considered, as well as financial.

'Local authorities have been replacing mercury and sodium street lights with LEDs. If this is done purely on the basis of energy efficiency and cost, it is possible to end up with installations that may not be fit for purpose,' he wrote in the [chief medical officer's annual report](#).

'Some streetlight luminaires have LED sources that can be seen physically projecting below the luminaire, becoming a glare source or light pollution. The light spectrum may be enriched in the blue, which may be beneficial for keeping drivers alert, but many people will find the light uncomfortable. High levels of blue light are known to cause damage to the retina in the eye. This only tends to be a problem for blue LEDs and not for white-light LED sources containing a blue LED and a yellow phosphor.'

He pointed out that LEDs can be provided in a range of colour temperatures and that ‘warmer colours are likely to be more appropriate for populated areas’.

Mr O’Hagan said: ‘Some of the LED sources assessed by Public Health England and others vary in illuminance at a frequency of 100 hertz. At the extreme, the LEDs switch on and off 100 times per second. This is of concern for a number of reasons.’

In such circumstances ‘rotating machinery, which could include the blades on a food mixer, may appear to be stationary if the rotation rate matches the modulation rate or is a multiple of it’.

He added this frequency can also result in headaches, migraines and feelings of malaise in those sensitive to this light modulation.